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10/561,288	10/12/2006	Juergen Eckert	F-8929	6137
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JORDAN AND HAMBURG LLP			ROE, JESSE E RANDALL	
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SUITE 4000			1793	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,288	<b>Applicant(s)</b> ECKERT ET AL.
	<b>Examiner</b> Jessee Roe	<b>Art Unit</b> 1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 19 November 2008.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) 4 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-3 and 5-9 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449)  
Paper No(s)/Mail Date See Continuation Sheet

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :19 December 2005 & 19 June 2006.

**DETAILED ACTION**

***Status of the Claims***

Claims 1-3 and 5-9 are currently are currently under examination and claim 4 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method for introduction into solid metallic glasses by means of a gas-phase reaction. Election was made with traverse in the reply filed on 19 November 2008. Applicant's election with traverse of claims 1-3 and 5-9 in the reply filed on 19 November 2008 is acknowledged.

The traversal is on the ground(s) that an election of species is not required where a unity of invention exists among the claims and PCT Rules 13.1 and 13.2 are not being properly applied. In response, MPEP 1850 (II) states "If, however, an independent claim does not avoid the prior art, then the question whether there is still an inventive link between all the claims dependent on that claim needs to be carefully considered". In the instant case, independent claim 1 and dependent claim 2 do not avoid the prior art. Independent claim 1 is unpatentable over Suh et al. (The effects of hydrogen on viscoelastic relaxation in Zr-Ti-Ni-Cu-Be bulk metallic glasses: implications for hydrogen embrittlement). Suh et al. discloses a Zr<sub>41.25</sub>Ti<sub>13.75</sub>Ni<sub>10</sub>Cu<sub>12.5</sub>Be<sub>22.5</sub> molded into a glass plate wherein hydrogen is introduced into the plate by cathodic charging in a 1 N sulfuric acid aqueous solution with a constant current density of 20 mA/cm<sup>2</sup> without the formation of brittle hydrides (2. Experimental Procedure and 4.3 Implications for hydrogen embrittlement). Therefore, the requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 and 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claim 1, the term "basic" is a relative term which renders the claim indefinite. The term "basic" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention, and it is not clear what is encompassed and what is not encompassed by the phrase "basic zirconium, titanium and hafnium alloys".

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Suh et al. (The effects of hydrogen on viscoelastic relaxation in Zr-Ti-Ni-Cu-Be bulk metallic glasses: implications for hydrogen embrittlement).

In regards to claims 1-3 and 5, Suh et al. discloses a  $Zr_{41.25}Ti_{13.75}Ni_{10}Cu_{12.5}Be_{22.5}$  molded into a glass plate wherein hydrogen is introduced into the plate without the formation of brittle hydrides by cathodic charging in a 1 N sulfuric acid aqueous solution with a constant current density of 20 mA/cm<sup>2</sup> wherein no temperature increase is associated with the Joule heating (i.e. room temperature, 25°C)(2. Experimental Procedure and 4.3 Implications for hydrogen embrittlement). Suh et al. further discloses that the plates are thin (~0.3 mm) to ensure uniform distribution of hydrogen through the thickness.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suh et al. (The effects of hydrogen on viscoelastic relaxation in Zr-Ti-Ni-Cu-Be bulk metallic glasses: implications for hydrogen embrittlement).

In regards to claims 6-9, Suh et al. discloses that the hydrogen content of the  $Zr_{41.25}Ti_{13.75}Ni_{10}Cu_{12.5}Be_{22.5}$  alloy is within the range of ~100 to 3000 ppm (2. Experimental Procedure), which overlaps the instantly claimed ranges of 20 to 1500 ppm (claim 6), 20 to 1000 ppm (claim 7), 20 to 800 ppm (claim 8), and 20 to 650 ppm

(claim 9).

The Examiner notes that the hydrogen content in the alloy disclosed by Suh et al. overlaps the hydrogen content of the alloy of the instant invention, which is *prima facie* evidence of obviousness. MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the claimed amount of hydrogen from the amount disclosed by Suh et al. because Suh et al. discloses the same utility throughout the disclosed range.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse Roe whose telephone number is (571) 272-5938. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/  
Primary Examiner, Art Unit 1793

JR